

301 Rec'd PCT/PTO 28 DEC 1999

FORM PTO-1390 (REV. 5-93)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NUMBER 67190/984412
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 09/446834
INTERNATIONAL APPLICATION NO PCT/DE99/01253	INTERNATIONAL FILING DATE (28.04.99) 28 April 1999	PRIORITY DATES CLAIMED (28.04.1998) 28 April 1998
TITLE OF INVENTION PROGRAMMING DEVICE		
APPLICANT(S) FOR DO/EO/US BECK, Hans-Joachim		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information		
<p>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.</p> <p>3. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) immediately rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</p> <p>4. <input type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)</p> <p>6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</p> <p>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> have been transmitted by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made.</p> <p>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (UNSIGNED)</p> <p>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p>		
Items 11. to 16. below concern other document(s) or information included:		
<p>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</p> <p>14. <input type="checkbox"/> A substitute specification.</p> <p>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</p> <p>16. <input checked="" type="checkbox"/> Other items or information: copy of International Search Report, Preliminary Examination Report and PCT/EASY Version 2.83.</p>		

Express Mail No.: EM360463542US

APPLICATION NO. if known, see 37 C.F.R.1.5. 09/446834	INTERNATIONAL APPLICATION NO. PCT/DE99/01253	ATT'L'S DOCKET NUMBER 67196-64412
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17. <input checked="" type="checkbox"/> The following fees are submitted:		CALCULATIONS PTO USE ONLY		
Basic National Fee (37 CFR 1.492(a)(1)-(5)):				
Search Report has been prepared by the EPO or JPO \$840.00				
International preliminary examination fee paid to USPTO (37 CFR 1.482) \$670.00				
No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) \$750.00				
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$970.00				
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) \$96.00				
ENTER APPROPRIATE BASIC FEE AMOUNT =		\$ 840.00		
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).		\$		
Claims	Number Filed	Number Extra	Rate	
Total Claims	2 - 20 =	0	X \$18.00	\$ 0
Independent Claims	1 - 3 =	0	X \$78.00	\$ 0
Multiple dependent claim(s) (if applicable)		+ \$260.00	\$	
TOTAL OF ABOVE CALCULATIONS =		\$ 840		
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).		\$		
SUBTOTAL =		\$ 840		
Processing fee of \$130.00 for furnishing the English translation later the <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).		\$		
TOTAL NATIONAL FEE =		\$ 840		
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property		\$		
TOTAL FEES ENCLOSED =		\$ 840		
		Amount to be refunded	\$	
		charged	\$	

- a. A check in the amount of \$ _____ to cover the above fees is enclosed.
- b. Please charge my Deposit Account No. 11-0600 in the amount of \$840.00 to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 11-0600. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Kenyon & Kenyon
One Broadway
New York, New York 10004

Richard d. Mayer
By: Mary C. Werner Reg. No. 30,333
SIGNATURE

Richard L. Mayer, Reg. No. 22,490
NAME

12/28/99

DATE

09/446834

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[67190/984412]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s) : Hans-Joachim BECK
Serial No. : To Be Assigned
Filed : Herewith
For : PROGRAMMING DEVICE
Examiner : To Be Assigned
Art Unit : To Be Assigned

Assistant Commissioner
for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

SIR:

Kindly amend the above-identified application before examination, as set forth below.

IN THE SPECIFICATION:

Please amend the specification as follows:

On page 1, before line 1, insert:

--FIELD OF THE INVENTION--.

On page 1, line 1, before "invention" insert --present--.

On page 1, before line 8, insert:

--BACKGROUND INFORMATION--.

On page 1, before line 18, insert:

--SUMMARY--.

On page 1, line 18, change "the" (first occurrence) to --an--, and before "invention" insert --present--.

On page 1, line 22, change "of the kind" to --according to the--.

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On page 1, line 23, change "cited initially" to --
present invention--.

On page 1, line 25, change "Only" to --According to
the present invention, only--.

On page 1, line 30, before "invention" insert --
present--.

On page 2, delete lines 7-10, and insert:
--BRIEF DESCRIPTION OF THE DRAWINGS--.

On page 2, before line 15, insert:
--DETAILED DESCRIPTION--.

On page 3, line 2, change ",; as" to --. As--.

On page 3, line 20, before "invention" insert --
present--.

On page 4, delete line 1, and insert:
--What Is Claimed Is:--.

IN THE ABSTRACT:

Please amend the abstract as follows.

Line 4, change "proposed" to --provided--.

Delete line 12.

IN THE CLAIMS:

Please cancel claims 1 and 2, without prejudice.

3. (New) A programming device, comprising:
 a software tool processing objects;
 a first object having data; and
 a second object having a pointer, the first object
 being a model for the second object, the software tool

incorporating at least some of the data of the first object into the second object at a beginning of an access to the second object.

4. (New) The programming device according to claim 3, wherein the software tool deposits at least one data group of the data of the first object into the second object so that at the beginning of the access to the second object, the software tool does not incorporate the at least one data group of the first object into the second object.

REMARKS

This Preliminary Amendment cancels, without prejudice, claims 1 and 2 in the underlying PCT Application No. PCT/DE99/01253, and adds new claims 3 and 4. The new claims, inter alia, conform the claims to U.S. Patent and Trademark Office rules and do not add new matter to the application.

The above amendments to the specification and the abstract are, inter alia, to conform the specification and the abstract to U.S. Patent and Trademark Office rules and to correct informalities. The amendments to the specification and the abstract do not add new matter.

The underlying PCT Application No. PCT/DE99/01253 includes an International Search Report, dated November 29, 1999. The Search Report includes a list of documents that were uncovered in the underlying PCT Application. A copy of the Search Report is included herewith.

It is respectfully submitted that the subject matter

of the present application is new, non-obvious, and useful.
Prompt consideration and allowance of the application are
respectfully requested.

Respectfully submitted,

KENYON & KENYON

Richard L. Mayer

Dated: 12/28/99

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USPTO Patent and Trademark Office

PROGRAMMING DEVICE

The invention relates to a programming device having a software tool for processing objects, of which a first object, equipped with data, is provided as model for a second object that has a pointer with which, at the beginning of an access 5 to the second object, the data of the first object can be incorporated into the second object by the software tool.

Data are often stored in a first object in the form of a type and in a second object in the form of an instance, the type 10 being provided as model for the instance. An instance usually comprises both the instance-specific and the type-specific data, the result being that the type-specific data need to be stored several times in a memory of the programming device. If, for example, n instances are applied to a type, the type-specific data usually need to be stored $(n+1)$ times, which means a very large data volume.

It is the object of the invention to reduce the data volume in a programming device when creating multiple instances from a type.

This object is achieved with a programming device of the kind cited initially.

25 Only the instance-specific data and a reference (pointer) to the type are deposited in the instance. The type-specific data are not incorporated into the instance until a data access to the instance begins.

30 In an embodiment of the invention, provision is made for at least one data group of the first object to be depositable by the software tool into the second object, the result being that at the beginning of an access to the second object, the software tool does not incorporate this data group of the 35 first object into the second object.

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This makes it possible for a data modification in a type to have either an influence or no influence on the data in an instance constituted with that type. A programmer can thus choose whether future data modifications in the type are to 5 have an affect on the instance data.

The invention, its embodiments, and its advantages will be explained in more detail below with reference to the drawings, in which an exemplary embodiment of the invention is 10 illustrated, and in which:

Figures 1 and 2 show, in a schematic depiction, a memory of a programming device having software objects.

In Figure 1, the reference number 1 designates a main memory 15 of a programming device into which a software tool 2, a first object in the form of a type 3, and a second object in the form of an instance 4 are loaded. Type 3 serves as model for instance 4, and comprises a type identifier Tk and data subdivided into data groups 6b through 6f, a data group comprising, for example, a width of 8 bits or a width of only one bit. Prior to a data access, instance 4 has only 20 instance-specific data 7 and an attribute list, which in the present example comprises six fields 8a, 8b through 8f. Field 8a is occupied by a pointer Id for addressing type 3 with type 25 identifier Tk; fields 8b through 8f, which are associated with data groups 6b through 6f of type 3, are occupied by attributes which indicate whether, at the beginning of an access to the instance data, the data to be incorporated by 30 software tool 2 in the event of a data modification in data groups 6b through 6f of type 3 are the modified data or the data valid prior to that modification.

It is assumed hereinafter that fields 8b, 8c, and 8d are 35 occupied by an attribute 1, and fields 8e and 8f by an attribute 0. This means that the data modifications in data groups 6b through 6d of type 3, but not modifications in data

groups 6e and 6f, are to be taken into account upon incorporation into instance 4; as a result, it is necessary for software tool 2 to write data groups 6e and 6f into instance 4 prior to any modification in those data. It is also
5 assumed that the software tool created data groups 6b through 6f at a time t0 and modified them at a time t1, thereby deleting the data valid at that time. The modified data groups are labeled 6b' through 6f'. Before a user can access the instance data, the type data must first be incorporated by
10 software tool 2 into instance 4 (Figure 2). Corresponding to the occupancy of fields 8b through 8f of the attribute list, software tool 2 incorporates into instance 4 only the type data valid at time t1 (i.e. data groups 6b', 6c', and 6d'), but not the type data 6e' and 6f' valid at that time t1. After incorporation of the type data, the instance data which a user
15 can now access comprise both the instance-specific data 7 and the type-specific data at time t0 and time t1, i.e. data groups 6b', 6c', 6d', 6e, and 6f.

20 The invention considerably reduces the quantity of data that must be saved, since only the data modifiable at an instance are stored. The type data are incorporated into the instance only prior to an access to the instance data. A data modification to a type can selectively affect the instance
25 data.

Claims

1. A programming device having a software tool (2) for processing objects (3, 4), of which a first object (3), equipped with data, is provided as model for a second object (4) that has a pointer (Id) with which, at the beginning of an access to the second object (4), the data (6b, 6c ...) of the first object (3) can be incorporated into the second object (4) by the software tool.
2. The programming device as defined in Claim 1, characterized in that at least one data group (6e, 6f) of the first object (3) is depositable by the software tool (2) into the second object (4), the result being that at the beginning of an access to the second object (4), the software tool (2) does not incorporate this data group (6e, 6f) of the first object (3) into the second object (4).

Abstract

In order to reduce the data volume in constituting multiple instances from a type, a programming device is proposed,
5 having a software tool for processing objects, of which a first object, equipped with data, is provided as model for a second object that has a pointer with which, at the beginning of an access to the second object, the data of the first object can be incorporated into the second object by the
10 software tool.

Figure 2

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1/2

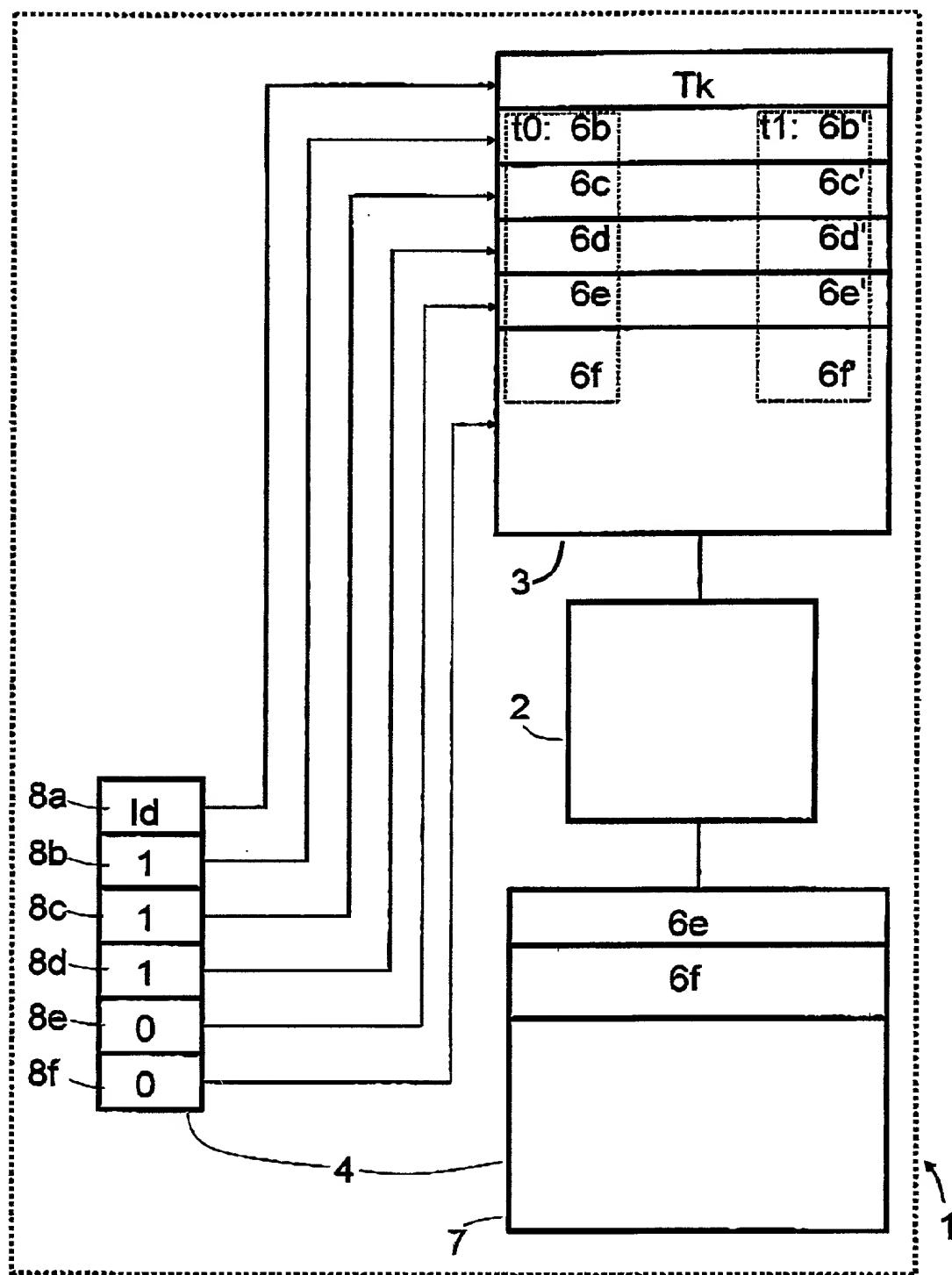


FIG1

2/2

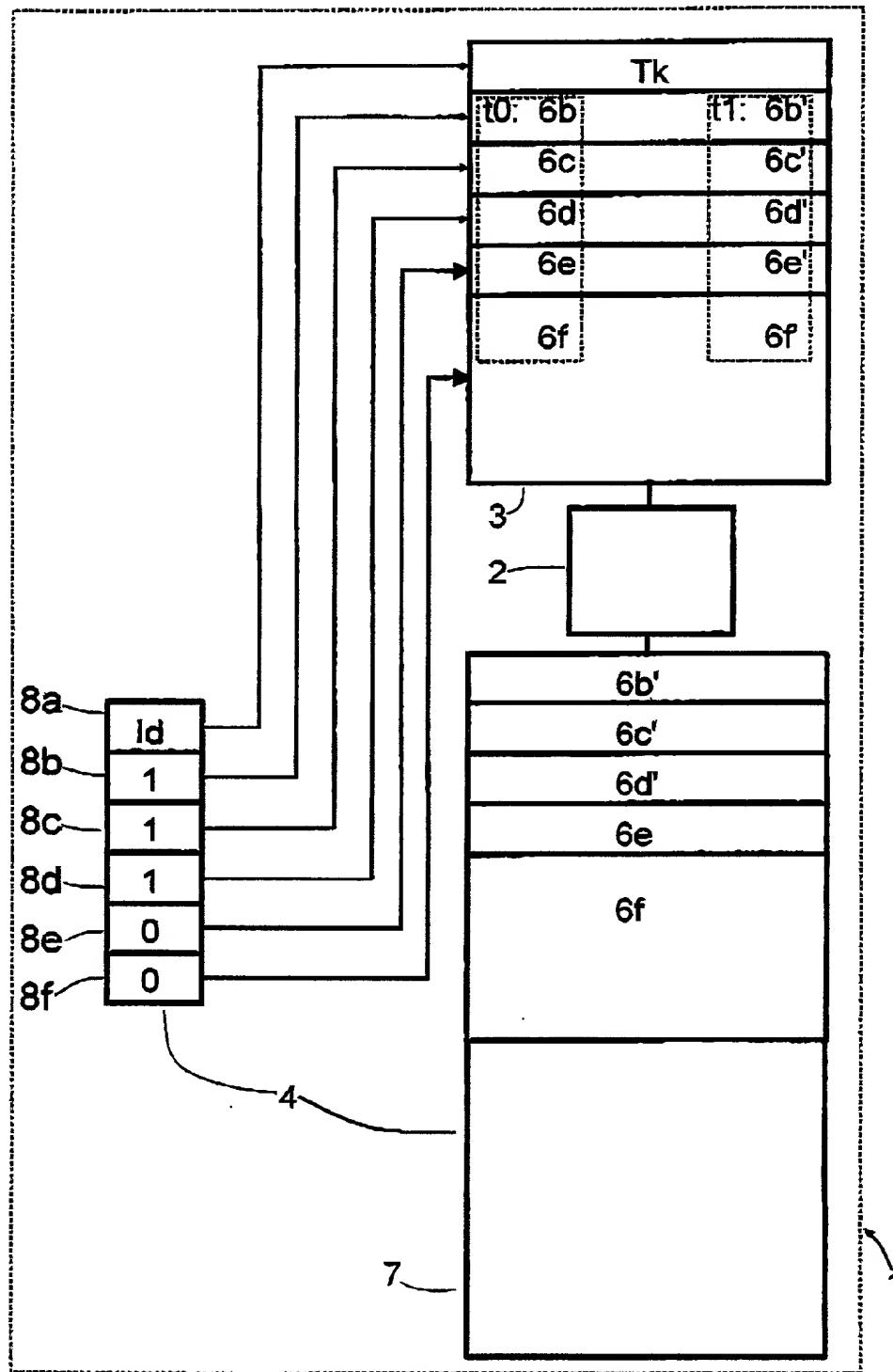


FIG2

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled **PROGRAMMING DEVICE**, for which an application for Letters Patent was filed as PCT Application No. **PCT/DE99/01253** on the **28th day of April, 1999**.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

PRIOR FOREIGN APPLICATION(S)

Number	Country	Day/month/year filed	Priority Claimed Under 35 USC §119
298 07 670.5	Fed. Rep. of Germany	28 April 1998	Yes

cc. EL 179106516 US

(3) And I hereby appoint Richard L. Mayer (Reg. No. 22,490), Gerard A. Messina (Reg. No. 35,952), and Michelle M. Carniaux (Reg. No. 36,098) my attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Please address all communications regarding this application to:

KENYON & KENYON
One Broadway
New York, New York 10004

Please direct all telephone calls to Richard L. Mayer at (212) 425-7200.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful and false statements may jeopardize the validity of the application or any patent issued thereon.

1-00
Inventor: Hans-Joachim BECK

Inventor's Signature: Hans-Joachim Beck

Date: 24-March-2000

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Federal Republic of Germany

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